

Abstract

We disclose an electronic imaging method and apparatus capable of effectively and accurately sensing and interpolating color image data received from a two-dimensional array of discrete image sensing elements, particularly, from a so-called "Bayer Pattern" array. In operation, the method and apparatus both extract one-color image data from the two-dimensional array and generate therefrom fully color-recovered image data by a combination of interpolation and non-linear filtering. Efficiency is accomplished, without departure from good accuracy, by performing two one-dimensional color recovery applications and essentially incrementally combining the results thereof. The first one-dimensional color recovery application generates a partially color-recovered image in which, for each row in that dimension, values are recovered for all of the colors present in that row. The second one-dimensional color recovery application then generates all the remaining colors at each pixel by operating along a second dimension.